CLAIMS

1. A method for use in a wireless receiver, comprising:

processing a first synchronization channel (305) of a received wireless signal to acquire slot synchronization; and

adaptively controlling a duration for processing a second synchronization channel of the received wireless signal to acquire frame synchronization (310).

2. The method of claim 1, wherein the first synchronization channel is a primary synchronization subchannel (PSCH) and the second synchronization channel is a secondary synchronization subchannel (SSCH) of a universal mobile telephone system (UMTS).

3. The method of claim 1, wherein the step of processing the first synchronization channel includes the step of providing a peak correlation value associated with the first synchronization channel.

4. The method of claim 3, wherein the adaptively controlling step includes the steps of:

determining a number of received frames of the received wireless signal as a function of the peak correlation value; and

processing the second synchronization channel over the determined number of frames to acquire frame synchronization.

5. The method of claim 4, wherein the processing the second synchronization channel includes the steps of:

comparing an estimated received sequence to each one of a plurality of possible received sequences, each sequence including a plurality of symbols; and

after each comparison to one of the plurality of possible sequences, identifying one of the plurality of possible sequences as a possible best match;

wherein, in the comparing step, if a number of mismatches for a current comparison is greater than or equal to a number of mismatches associated with the possible best match, the current comparison is abandoned and a new comparison is begun.

6. The method of claim 1, wherein the step of processing the first synchronization channel includes the step of providing multiple correlation values, including the peak correlation value, associated with the first synchronization channel.

7. The method of claim 6, wherein the adaptively controlling step includes the steps of:

determining a number of received frames of the received wireless signal as a function of the peak correlation value and at least one other value; and

processing the second synchronization channel over the determined number of frames to acquire frame synchronization.

8. The method of claim 7, wherein the step of processing the second synchronization channel includes the steps of:

correlating the received wireless signal to provide an estimate of a received sequence over the determined number of frames; and

comparing the estimated received sequence to each one of a plurality of expected received sequences to determine a number of matches thereto; and

if the number of matches to at least one of the plurality of expected received sequences exceeds a predefined threshold, breaking out of the step of processing the second synchronization channel.

9. The method of claim 1, wherein the adaptively controlling step includes the steps of:

processing the second synchronization channel to form cumulative data representing a possible scrambling code group comprising an *M* symbol sequence;

determining a number of matches between the *M* symbol sequence of the possible scrambling code group and each scrambling code group of a set of scrambling code groups; and

if the determined number of matches for at-least-one scrambling code group of the set of scrambling code groups exceeds a predefined value, selecting the at-least-one scrambling code group as the scrambling code group for use in acquiring frame synchronization.

10. The method of claim 9, wherein the selecting step includes the step of halting further processing of received frames in the received wireless signal.

11. The method of claim 9, wherein the selecting step includes the step of:

if more than one scrambling code group of the scrambling code group set exceeds the determined number of matches, selecting the scrambling code group with the most number of matches.

12. A method for use in a wireless receiver, comprising:

processing a first synchronization channel (305) of a wireless signal, received from a wireless communications channel to acquire slot synchronization, for providing a signal representative of a condition of the wireless communications channel;

using a value of the signal for indexing into a table for determining a number of received frames; and

processing a second synchronization channel of the wireless signal over at least the determined number of received frames to acquire frame synchronization.

13 The method of claim 12, wherein the processing the second synchronization channel includes the steps of:

comparing an estimated received sequence to each one of a plurality of possible received sequences, each sequence including a plurality of symbols; and

after each comparison to one of the plurality of possible sequences, identifying one of the plurality of possible sequences as a possible best match;

wherein, in the comparing step, if a number of mismatches for a current comparison is greater than or equal to a number of mismatches associated with the possible best match, the current comparison is abandoned and a new comparison is begun.

14. Universal Mobile Telephone System (UMTS) equipment comprising:

a front end (105) for receiving a wireless signal representing a sequence of frames and for providing a stream of received samples therefrom; and

a processor (135) for adaptively controlling a duration for performing frame synchronization on the received samples.

15. The UMTS equipment of claim 14, further comprising:

a primary synchronization element (205) operative on the received samples for acquiring slot synchronization to a primary synchronization signal of the received wireless signal and for providing a peak correlation value associated therewith; and

a secondary synchronization element (210) operative on the received samples for acquiring frame synchronization to a secondary synchronization signal of the received wireless signal;

wherein the processor determines a number of frames for the secondary synchronization element to process for acquiring frame synchronization as a function of the peak correlation value.

16. The UMTS equipment of claim 15, wherein the processor determines the number of frames for the secondary synchronization element to process for acquiring frame synchronization as a function of the peak correlation value and at least one other correlation value.

17. The UMTS equipment of claim 14, further comprising:

a primary synchronization element (205) operative on the received samples for acquiring slot synchronization to a primary synchronization signal of the received wireless signal; and

a secondary synchronization element (210) operative on the received samples subsequent to slot synchronization for providing a possible scrambling code group comprising an *M* symbol sequence;;

wherein the processor (a) determines a number of matches between the *M* symbol sequence of the possible scrambling code group and each scrambling code group of a set of scrambling code groups, and (b) if the determined number of matches for at-least-one scrambling code group of the set of scrambling code groups exceeds a predefined value, selects the at-least-one scrambling code group as the scrambling code group for use in acquiring frame synchronization.

18. The UMTS equipment of claim 17, wherein the processor halts further processing of received frames in the received wireless signal if the determined number of matches for at-least-one scrambling code group exceeds the predefined value.

19. The UMTS equipment of claim 17, wherein if more than one scrambling code group of the scrambling code group set exceeds the determined number of matches, the processor selects the scrambling code group with the most number of matches.

20. Universal Mobile Telephone System (UMTS) equipment comprising:

a front end (105) for receiving a wireless signal representing a sequence of frames, each frame conveying a primary synchronization signal and a secondary synchronization signal;

a memory (140) for storing a table for associating a number of received frames with a correlation value, the correlation value being associated with the received primary synchronization signal; and

a processor (135) that limits processing of the secondary synchronization signal to the associated number of received frames.